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09/853,653	05/14/2001	Tomohisa Nishikawa	Q64382	7121

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EXAMINER
JOHNSTONE, ADRIENNE C

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No. 09/853,653	Applicant(s) NISHIKAWA ET AL.
	Examiner Adrienne C. Johnstone	Art Unit 1733

-- The MAILING DATE of this communication appears on the cover she t with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-14* is/are pending in the application.

4a) Of the above claim(s) *12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-11,13 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 May 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *09/302,999* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the species including the rubber-steel cord composite as a carcass ply in the tire and the steel cord construction in the composite of 1x5, claims 5-11, 13, and 14 in Paper No. 6 is acknowledged.

2. Claim 12 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 6.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/302,999, filed on April 30, 1999. *Drawings*

4. The drawings are objected to because Figures 10-13 (Structures 11-14) are not discussed at all in the specification (in the Brief Description of the Drawings these figures are identified as tire structures used in the examples, however no instantly disclosed example in fact uses tire structures 11-14: it therefore cannot be determined what subject matter is depicted in Figures 10-13, or even whether or not Figures 10-13 depict the invention). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: PNEUMATIC TIRE INCLUDING RUBBER-STEEL CORD COMPOSITE.

6. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The abstract of the disclosure is objected to because it refers to purported merits of the invention, it is more than 150 words in length, and it includes more than one paragraph.

Correction is required. See MPEP § 608.01(b).

One way to overcome this objection would be to delete the second paragraph of the abstract (which is the part improperly referring to purported merits of the invention).

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

10. It should be noted that the examiner's file includes a duplicate specification page 33.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 8-11, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

To provide proper antecedent basis and to clarify the meaning of "rubber reinforcing layer" in claim 10 applicants should make the following amendments to the claims.

claim 8

line 1, change "the filament" to -- the filaments -- ;

line 2, change "has" to -- have -- .

claim 9

line 1, before "wherein" insert -- further comprising a carcass, -- ;

line 2, change "a carcass layer" to -- the carcass -- (see claims 11 and 13 reciting "the carcass").

claim 10

line 2, before the period insert -- such that the tire can be used in the run-flat condition -- (see for example the specification p. 3 line 8 - p. 5 line 22: the "rubber reinforcing layer" as described in the specification provides run-flat capability).

claim 11

line 4, change "a rubber-steel cord composite" to -- the rubber-steel cord composite -- ;

line 5, before "steel cords" insert -- the -- .

claim 13

line 2, before "a plurality of" insert -- the rubber-steel cord composite in which -- ;

line 3, before "steel cords" insert -- the -- and change "and a matrix rubber" to -- is embedded in a matrix rubber -- .

claim 14

line 4, before "portions" insert -- ply -- .

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Application 7-189144 A or, alternatively, Japanese Patent Application 10-18188 A.

See JP '144 abstracts and Examples 1-6 in Figures 1-3 and translation paragraphs 0008-0024: although the reference does not explicitly disclose the fraction R of the total area occupied by the filaments per 15 mm length of a cord in the range of 0.45 to 0.95 as recited in the claim, the fraction R inherent in Examples 1-6 as depicted in Figures 1-3 clearly falls well within the broad range of 0.45 to 0.95 because the twist pitch of the cords in the examples is either 9.5 mm or 6.0 mm: the filaments in the cross-section of Figure 1 would therefore rotate either slightly more than 1 and 1/2 times or 2 and 1/2 times over a length of 15 mm, providing a filament fraction R substantially less than the 0.98 for conventional open cords (such as the one depicted in Figure 5 of the reference) as disclosed by applicants but clearly well above applicants' lower limit of 0.45

(the filament fraction in any given cross section would vary between on the order of 3/5 (0.6) for the cross section depicted in Figure 1 to about 2/3 (0.67) for the filaments in the Figure 1 cross section rotated 1/8 from their depicted locations). There is therefore sufficient basis for the examiner to infer that the JP '144 tire inherently meets the claim limitation concerning the filament fraction R. The burden now shifts to applicants to prove that the JP '144 tire does not meet the filament fraction limitation of the instant claims (see for example the case law cited in MPEP 2112).

Alternatively, see JP '188 abstract and Example 1 in Figure 1 and translation paragraphs 0017-0041: although the reference does not explicitly disclose the fraction R of the total area occupied by the filaments per 15 mm length of a cord in the range of 0.45 to 0.95 as recited in the claim, the fraction R inherent in Example 1 as depicted in Figure 1 clearly falls well within the broad range of 0.45 to 0.95 because the twist pitch of the cords in the example is 16 mm: the filaments in the cross-section of Figure 1 would therefore rotate slightly less than 1 full turn over a length of 15 mm, providing a filament fraction R substantially less than the 0.98 for conventional open cords (such as the one depicted in Figure 2 of the reference) as disclosed by applicants but clearly well above applicants' lower limit of 0.45. There is therefore sufficient basis for the examiner to infer that the JP '188 tire inherently meets the claim limitation concerning the filament fraction R. The burden now shifts to applicants to prove that the JP '188 tire does not meet the filament fraction limitation of the instant claims (see for example the case law cited in MPEP 2112).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 5-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hatakeyama et al. (4,738,096).

See the entire document: 1x4 cord construction with 0.25 mm filament diameter, Example 1; 1x5 cord construction with 0.15 mm filament diameter, Example 3. Although the reference does not explicitly disclose the fraction R of the total area occupied by the filaments per 15 mm length of a cord in the range of 0.45 to 0.95 as recited in the claim, the fraction R inherent in Example 1 and Example 3 falls well within the broad range of 0.45 to 0.95 because the twist pitch of the cords in the examples is 10 mm: the cord cross-section of Figure 3 or Figure 5 would thus rotate 1 and 1/2 times over a length of 15 mm, providing a filament fraction R substantially less than the 0.98 for conventional open cords (such as the one depicted in Figure 1 of the reference) as disclosed by applicants but clearly well above applicants' lower limit of 0.45. There is therefore sufficient basis for the examiner to infer that the Hatakeyama et al. tire inherently meets the claim limitation concerning the filament fraction R. The burden now shifts to applicants to prove that the Hatakeyama et al. tire does not meet the filament fraction limitation of the instant claims (see for example the case law cited in MPEP 2112). As to the requirement that

the rubber-steel cord composite is in a pneumatic tire, see the disclosure of the rubber-steel cord composite in tires at col. 1 line 5 - col. 2 line 28: one of ordinary skill in the art would have understood the Hatakeyama et al. tire to have the basic pneumatic tire structure absent an explicit teaching that the tire is one of the relatively rare nonpneumatic tires; in any case, it would have been obvious to one of ordinary skill in the art to provide such basic pneumatic tire structure in the Hatakeyama et al. tire.

18. Claims 9-11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatakeyama et al. (4,738,096) as applied to claims 5-8 above, and further in view of Oare et al. (5,871,600).

The tire structure including steel carcass cords added in claims 9-11, 13, and 14 is conventional, as evidenced by Oare et al. (col. 5 line 41 - col. 22 line 5) for example; it therefore would have been obvious to one of ordinary skill in the art to use the Hatakeyama et al. steel cords as carcass cords in such a conventional tire in order to obtain the advantages such as improved rubber penetration taught by Hatakeyama et al. As to claims 11, 13, and 14, see the embodiment of Figure 8A, col. 20 lines 28-40 and col. 6 lines 43-49 (down ply 80 has the steel cords).

Allowable Subject Matter

19. Favorable consideration will be given to claim 5 once it includes the limitations of dependent claims 9 and 10 and the limitation that the filament fraction R is in the range of 0.55-0.75 (specification p. 14 lines 14-16): applicants' test data in Examples 1, 2, and 4 show substantial improvement in run-flat durability for the preferred range exemplified by 0.6 when compared to the less preferred ranges exemplified by 0.81, which is unexpected in view of the substantially unchanged run-flat durability between the conventional 0.98 and the less preferred ranges exemplified by 0.81.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references anticipate or render obvious at least claim 1 but are considered at this time to be no more pertinent to the claims than the prior art already of record: Miyawaki (5,162,067); Kobayashi et al. (5,293,737); Yanagisawa (5,606,852); European Patent Application 0 841 430 A1; and Japanese Patent Applications 8-92884 A, 8-113887 A, 9-13288 A, 10-140491 A, and 11-11107 A.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrienne C. Johnstone whose telephone number is (703)308-2059. The examiner can normally be reached on Monday-Friday, 10:00AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703)308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9311 for regular communications and (703)872-9310 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Adrienne C. Johnstone
Primary Examiner
Art Unit 1733

Adrienne Johnstone
May 5, 2003